

REMARKS

Claims 1-20 are pending in the present Application. Claims 1, 8, 11-12, and 16-17 have been amended, claim 7 has been canceled, and claim 21 has been added, leaving claims 1-6 and 8-21 for consideration upon entry of the present Amendment. No new matter has been added by the amendments. Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

Amended claims

Claim 1 has been amended to contain the language “wherein the aromatic thermoplastic polymer article comprises a composition comprising an aromatic thermoplastic polymer and an ionic anti-fog additive.” Support for the amendment can be found in claim 7 as originally filed.

Claims 8, 11-12, and 16 have been amended to properly depend from a pending claim.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 18-20 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by U.S. Publication No. 2002/0023292 to Masumoto.

Masumoto generally discloses goggles wherein the inside surface of the lens is provided with an anti-fog treatment. Masumoto, [0025]. The lens can be polycarbonate. Masumoto, [0025].

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Variet Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

Claim 18 depends from claim 1, claim 19 ultimately depends from claim 21, and claim 20 ultimately depends from claim 17. Claims 1, 21, and 17 all require the thermoplastic article to be prepared from a composition containing an ionic or non-ionic anti-fog *additive*. Masumoto does not teach use of such an additive, but rather teaches an anti-fog treatment *to the surface* of the lens. As Masumoto fails to teach each and every limitation of claims 18-20, the claims are not anticipated by the reference. Accordingly, reconsideration and removal of the rejections are respectfully requested.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 18-20 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Masumoto in view of U.S. Patent No. 6,225,391 to Parthasarathy et al. ("Parthasarathy") and U.S. Publication No. 2003/0109660 to Oda et al. ("Oda").

Parthasarathy generally discloses compounds of Formula I $R^2_{4-z}Si[(Q)_x A(CH_2)_y H]_z$ or of Formula II $[H(CH_2)_y A(Q)_x]_b SiR^1_{3-b} SiR^1_{3-b}[(Q)_x A(CH_2)_y H]_b$, used as nonvolatile in situ precursors to anti-fog agents for packaging films and a novel process of making such films. Parthasarathy, Abstract. In particular, these nonvolatile in situ precursors are used in polyolefin compositions to obtain anti-fog properties. Parthasarathy, col. 2, lines 42-48. No aromatic thermoplastic polymers are taught or suggested.

Oda generally discloses a flame retardant resin composition comprising: 100 parts by weight of a resin component (A) which is a resin mixture of an aromatic polycarbonate and a styrene polymer, wherein the resin mixture has an aromatic polycarbonate content of from 50 to 95% by weight and a styrene polymer content of from 5 to 50% by weight; 0.1 to 30 parts by weight of an organopolysiloxane (B) which comprises 0 to 70 mol % of a monofunctional siloxane unit (M unit), 0 to 100 mol % of a bifunctional recurring siloxane unit (D unit), 0 to 100 mol % of a trifunctional recurring siloxane unit (T unit), and 0 to 63 mol % of a tetrafunctional recurring siloxane unit (Q unit); and 0.0005 to 5 parts by weight of at least one inorganic metal salt (C) selected from the group consisting of inorganic alkali metal salts and inorganic alkaline earth metal salts. Fog resistance or fog resistant articles are not taught or suggested by Oda. Furthermore, no other aromatic polymers other than polycarbonate and polystyrenes are taught by Oda.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494,

496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claim 18 depends from claim 1, which requires the article to comprise an ionic anti-fog additive. Claim 20 depends from claim 17, which also requires the article to comprise an ionic anti-fog additive. None of Masumoto, Parthasarathy, or Oda teaches or suggests an ionic anti-fog additive used in an aromatic thermoplastic polymer composition. Accordingly, as each and every claim limitation of claims 18 and 20 is not taught or suggested in the references, the claims have not been rendered obvious.

Claim 19 ultimately depends from claim 21, which requires the article to comprise an ionic or non-ionic anti-fog additive in combination with a particular aromatic thermoplastic polymer that is polyphenylene ether, aromatic polyester, polyphenylene ether/styrene blend, aromatic polyamide, polyethylene terephthalate, blends thereof, or a combination comprising at least one of the foregoing polymers. None of Masumoto, Parthasarathy, or Oda teaches or suggests non-ionic or an ionic anti-fog additive used in combination with the particular polymer claimed. Accordingly, each and every claim limitation of claim 19 is not taught or suggested by the references. Therefore, claim 19 has not been rendered obvious. Reconsideration and removal of the rejections are respectfully requested.

Claims 1-7 and 11-20 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Parthasarathy in view of Oda.

Claims 18-20 were previously discussed above and were shown to be nonobvious in view of Masumoto, Parthasarathy, and Oda.

Independent claims 1, 17, and 21 will be discussed here as claims 2-7 and 11-16 all ultimately depend from these claims.

Claims 1 and 17 require the article to comprise an *ionic* anti-fog additive. Neither Parthasarathy nor Oda teach or suggest the use of an ionic anti-fog additive to be present in an aromatic thermoplastic polymer article that is exposed to an aqueous environment sufficient to result in a fog resistant aromatic thermoplastic polymer article.

Claim 21 requires the aromatic thermoplastic polymer article to comprise a composition comprising an aromatic thermoplastic polymer and an ionic or non-ionic anti-fog additive, wherein the aromatic thermoplastic polymer comprises polyphenylene ether, aromatic polyester, polyphenylene ether/styrene blend, aromatic polyamide, polyethylene terephthalate, blends thereof, or a combination comprising at least one of the foregoing polymers. None of these particular polymers are taught or suggested by the two references. Accordingly, as each and every limitation of the claims is not taught or suggested by the references, reconsideration and removal of the rejections are respectfully requested.

Furthermore, there is no motivation to modify the references to use either an *ionic* anti-fog additive or the particular thermoplastic polymer of polyphenylene ether, aromatic polyester, polyphenylene ether/styrene blend, aromatic polyamide, polyethylene terephthalate, blends thereof, or a combination comprising at least one of the foregoing polymers as there would be no expectation of success to use these to obtain a fog resistant article made by exposing the article to an aqueous environment.

First, there would be no motivation to use an ionic anti-fog additive in a thermoplastic as neither Parthasarathy nor Oda teach or suggest the use of an ionic anti-fog additive in a thermoplastic. Parthasarathy teaches siloxanes as anti-fog precursors in polyolefin. Oda teaches organopolysiloxanes and inorganic salts can be used in a flame retardant resin composition. Such teachings would only motivate a skilled artisan to use a siloxane in a polyolefin as an anti-fog precursor or use a siloxane in a resin composition as a flame retardant. There is no requisite expectation that an *ionic* anti-fog additive, which is different from the siloxanes of Parthasarathy and Oda, would be successfully used to prepare a fog resistant thermoplastic article by exposing the article to an aqueous environment to result in fog-resistance, where the article comprises an aromatic thermoplastic polymer and an ionic anti-fog additive.

Second, there would be no motivation to use an anti-fog additive in an article prepared from polyphenylene ether, aromatic polyester, polyphenylene ether/styrene blend, aromatic polyamide, polyethylene terephthalate, blends thereof, or a combination comprising at least one of the foregoing polymers, and which is exposed to an aqueous environment as none of Parthasarathy or Oda teach or suggest these particular polymers. There is no expectation that just

any aromatic polymer containing a siloxane anti-fog precursor of Parthasarathy would exhibit the same anti-fog properties as the polyolefins of Parthasarathy. Indeed, as is discussed in Paragraph [0004] of the instant Application, known additives that are useful to impart anti-fog properties to polyethylene and poly(vinyl chloride) can be unsuitable for polycarbonate and other aromatic thermoplastic polymers.

Even though Oda teaches some aromatic polymers, which contain an organosiloxane and an inorganic salt, Oda is directed to making the composition flame retardant. There is no indication that such a combination would render the polymers fog resistant. Regardless, neither reference teaches the claimed aromatic polymers.

Accordingly, as the references fail to teach or suggest each and every claim limitation of claims 1-7 and 11-20 and furthermore fail to provide a motivation to modify the references to either use an ionic anti-fog additive or use the particular aromatic polymers as claimed in independent claim 21, the claims have not been rendered obvious. Reconsideration and removal of the rejections is respectfully requested.

Claims 8-10 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Parthasarathy in view of Oda, and further in view of U.S. Patent No. 6,040,053 to Scholz et al. (“Scholz”).

Scholz generally discloses *a coating* composition which imparts anti-reflective and anti-fog properties to substrates *coated* therewith; the coating composition utilizes an inorganic metal oxide in combination with silane or a siloxane oligomer. The silane or siloxane oligomer can include sulfonate salt moieties with a quaternary alkyl ammonium counter ion. Scholz, Col. 6, line 1 to col. 7, line 16. Scholz, however, does not teach or suggest using the silane or siloxane oligomers as an *additive* in a polymer, only as a coating component.

Applicants respectfully contend that one of ordinary skill in the art would not be motivated to add the silane or siloxane oligomer having a sulfonate salt moiety of Scholz to the material of Parthasarathy or Oda as Scholz is directed to coatings on a substrate and not the article itself containing incorporated anti-fog additive. Even absent the motivation to add the salt to the material used to prepare the article (as opposed to a coating on the surface) there is no expectation

of success. That is, the information about coatings does not provide adequate evidence that the coating components would be successful for use as an additive intimately combined with the material used to prepare the article. As there is no motivation to combine the references and no expectation of success of blending a coating component into the material itself, the Applicants respectfully request reconsideration and removal of the rejections to claim 8-10.

New claim


New claim 21 has been added and support for the claim can at least be found in the claims as originally filed.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0893.

Respectfully submitted,

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